REMARKS

The composite substance of the present invention comprises a solvent and metal or metal-compound particles wetted by the solvent, prepared by mixing the solvent with undried metal or metal-compound particles. Alternatively, the composite substance may comprise a first solvent, an optional second solvent, and a surface active agent. The conductive paste of the present invention comprises the composite substance of the present invention and an organic binder. The solvent and first solvent are compatible with the organic binder (i.e., the organic component) and the second solvent is selected to be compatible with water and the first solvent. but the 1st solvent is incompatible with water.

In each embodiment of the present invention, the metal or metal-compound particles are "undried" (i.e., wetted with water) before being mixed with the solvent or first solvent, rather than mixed with the solvent or first solvent after being dried. As discussed in the specification at page 2, lines 8-14, metal particles used in conductive pastes are typically dried, and thereby tend to aggregate. The aggregated metal particles decrease the reliability and yield of the electronic components prepared from the conductive paste (present specification at page 2, lines 15-27, and Figure 4). Thus, the composite substance and conductive paste of the present invention, prepared by mixing undried metal or metal-compound particles with a solvent, are different from conventional composite substances or conductive pastes, prepared by mixing dried metal powders with a solvent. The composite substances and conductive paste of the present invention lack the aggregated particles found in conductive paste prepared by conventional methods, as shown in Tables 1 and 2 at pages 11 and 14 of the present invention. For example, the conductive paste of Comparative Example 1 provides a substantially rougher coating on a substrate compared to the otherwise identical conductive paste prepared from wet Ni metal powder. The roughness of the conductive paste of Comparative Example 1 is caused by the presence of aggregated Ni metal

particles in the dried Ni metal powder. It is well known that even modest irregularities in the components of electronic devices can significantly affect the properties of the device, for example by causing short circuits between printed circuit lines. Accordingly, the composite substance and conductive paste of the present invention have significantly different and improved properties compared to conventional composite substances and conductive pastes.

Applicants respectfully traverse the rejection over Shoji and Burn. Both Shoji and Burn describe conductive pastes prepared by mixing metal powders with solvents. Neither Shoji nor Burn expressly describe using dried metal powders. However, both Shoji and Burn describe using commercial metal powders (Shoji at column 5, lines 14-21; Burn at column 6, lines 25-28). As stated in the present specification, commercial metal powders are conventionally washed with water after their manufacture, and then dried (specification at page 2, lines 4-6). Thus, based on the evidence of record, it is reasonable that both Shoji and Burn describe preparing conductive pastes from *dried* metal powders, rather than the *undried* powders of the present invention. Furthermore, since there is no indication in either Shoji or Burn that the metal powders used therein are wetted with water prior to mixing with the solvent, it is reasonable to assume that Shoji and Burn describe conventional *dried* metal powders. Thus, neither Shoji nor Burn describe or suggest mixing undried metal or metal-compound powders with a solvent, and therefore neither anticipate nor suggest the claimed inventions. Applicants therefore respectfully request withdrawal of the rejections.

Applicants respectfully traverse the rejection of Claims 43 and 47 under 35 U.S.C. § 112, second paragraph. First, Applicants note that the "clean copy" of the claims provided in the Amendment filed October 24, 2002, inadvertently omitted the first line of Claim 47. The marked-up copy of Claim 47 in the Amendment of October 24, 2002 does include the first line. It may therefore have appeared from the "clean copy" that the last five lines of Claim 47 were appended to Claim 43. In the listing of the claims, above, Applicants have provided

a correct "clean copy" of Claim 43, consistent with the marked-up copy of Claim 43 in the Amendment of October 24, 2002. In addition, the currently amended copy of Claim 47, above, is consistent with the marked-up copy of Claim 47 in the Amendment of October 24, 2002. Applicants apologize for any confusion this typographical error may have caused.

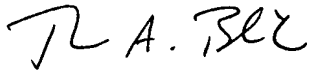
Applicants respectfully submit that the last five lines of Claim 43 are not redundant. These lines further limit the first solvent to one which is compatible with an organic component (i.e., organic binder) of the conductive paste, and limit the second solvent to one which is compatible with water and the first solvent. Furthermore, the metal particles are wetted by the first solvent. In other words, the last five lines of Claim 43 recite distinctly different properties for the first and second solvents.

As is expressly stated in Claim 47, the first solvent is compatible with the organic component of the conductive paste, and wets the metal-compound particles. The second solvent is limited to solvents compatible with the first solvent and water. The surface active agent is not further limited, and may be any surface active agent. Applicants therefore respectfully submit that the meaning of Claims 43 and 47 is clear, and accordingly request withdrawal of the rejection.

Applicants respectfully submit that the present application is now in condition for allowance, and early notification thereof is earnestly solicited.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER AND NEUSTADT, P.C.



Norman F. Oblon
Registration No. 24,618
Attorney of Record

Thomas A. Blinka, Ph.D.
Registration No. 44,541

22850

Tel.: (703) 413-3000
Fax: (703) 413-2220
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I:\ATTY\TAB\209543US-AM.DOC